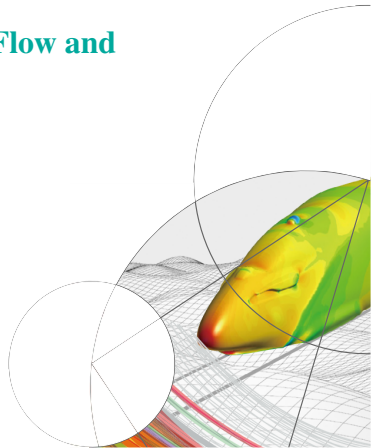


Baram-v1.0

OpenFOAM GUI for Incompressible Flow and Heat Transfer

넥스트폼

2015년 01월 10일

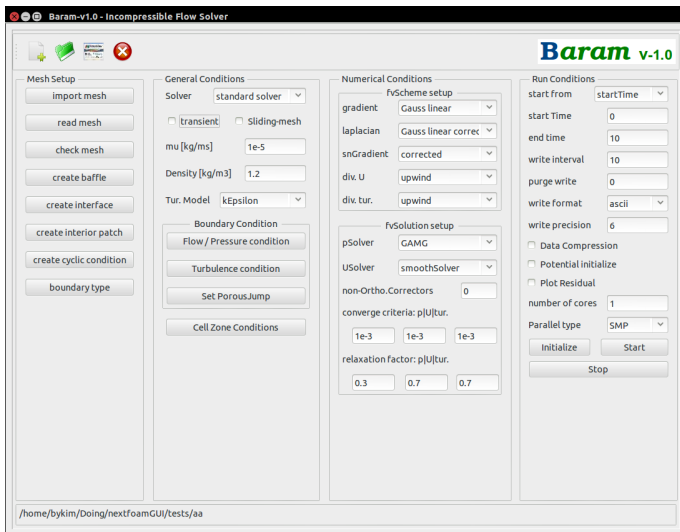


프로그램 개요

- Incompressible flow and heat transfer CFD simulator
- Graphic User Interface to use OpenFOAM-2.3.x
- Solvers : OpenFOAM solver modified by NEXTFOAM Inc.
 - nSimpleFoam
 - nPimpleFoam
 - nPimpleDyMFoam
 - nBuoyantSimpleFoam
 - nBuoyantPimpleFoam

Open  FOAM

Graphic User Interface

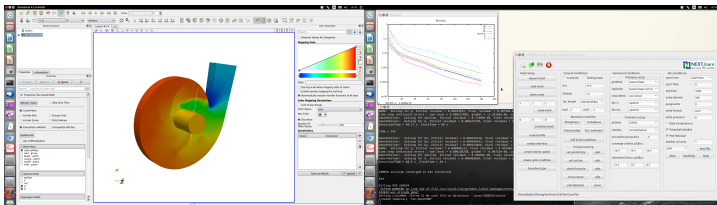


설치 방법

- ❶ Baram-v1.0-install.tar.gz 파일의 압축을 푼다
 - ❷ 터미널에서 Baram-v1.0-install 폴더로 이동한다.
 - ❸ install 파일을 실행한다.
 - ❹ 터미널에서 Baram을 실행하거나 리눅스 메뉴에서 Baram을 찾아 실행한다.
- 실행에 필요한 프로그램
 - OpenFOAM-2.3.x, pyFoam, python-2.7, gnuplot
 - 실행 파일 및 소스 코드 위치
 - \$FOAM_USER_APPBIN/Baram-GUI-v1.0/

프로그램의 기능

- Steady / transient incompressible flow
- Incompressible flow with sliding mesh
- Steady / transient heat transfer
 - Convection
 - Buoyant force
 - Radiation : Discrete Ordinate Model, P1 Model

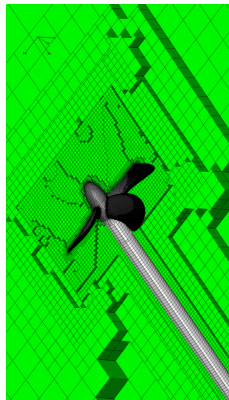


난류 모델

- Turbulence model of OpenFOAM
- Modified turbulence model using limiter for turbulence viscosity ratio
- k-epsilon models
 - standard k-epsilon
 - realizable k-epsilon
 - RNG k-epsilon
- k-omega models
 - standard k-omega
 - SST k-omega
- laminar

격자 관련 기능

- Read OpenFOAM mesh
- Convert mesh files
 - ANSYS Fluent mesh : msh, cas format
 - StarCCM+ mesh : ccm format
- Scale / Transform mesh
- Create baffle
- Mesh interface
 - Non-matching mesh interface
 - Cyclic condition



Boundary / cell zone conditions

- Boundary conditions

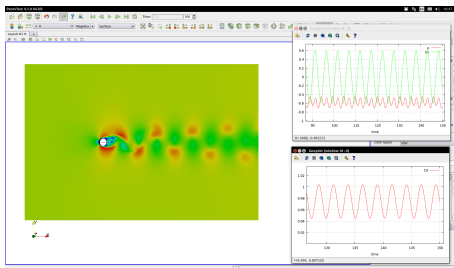
- Constant value
- Zero gradient
- Surface normal velocity
- Constant flow rate
- Total pressure
- Porous jump
- Heat flux
- Heat transfer coefficient

- Cell zone conditions

- Moving Reference Frame
- Sliding mesh
- Porous media
- Momentum source
- Energy source
- Fixed value

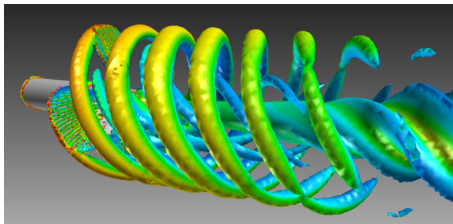
후처리 기능

- Paraview support
- Force report
- Surface integral / average
- Monitoring
 - Point values
 - Surface Integral
 - Flow rate
 - Force coefficients
 - residuals



기타 기능

- Parallel computing : SMP, Cluster
- Initialize flow field using potential flow result
- Data mapping
- Patch values
- Case report document output



Customize program

- 소스 코드를 수정을 통해 필요한 기능의 추가 가능
- VOF, DPM, cavitation, species, view factor, dynamic mesh, scalar...
- Special B.C, source term, material properties...
- Mesh generation, batch job, windows porting...

